

What is claimed is:

1. A method for treating an ischemic disorder in a subject which comprises administering to the subject a pharmaceutically acceptable form of a selectin antagonist in a sufficient amount over a sufficient time period to prevent white blood cell accumulation so as to treat the ischemic disorder in the subject.
- 10 2. The method of claim 1, wherein the selectin antagonist comprises a peptide mimetic, a nucleic acid molecule, a ribozyme, a polypeptide, a small molecule, a carbohydrate molecule, a monosaccharide, an oligosaccharide or an antibody.
- 15 3. The method of claim 2, wherein the antibody is a selectin antibody.
4. The method of claim 3, wherein the antibody is a polyclonal antibody or a monoclonal antibody.
- 20 5. The method of claim 1, wherein the selectin antagonist comprises nitroglycerin or an agent which stimulates the nitric oxide, adenosine 3',5'-cyclic monophosphate, cyclic AMP or cyclic GMP pathway.
- 25 6. The method of claim 1, wherein the pharmaceutically acceptable form comprises a selectin antagonist and a pharmaceutically acceptable carrier.
- 30 7. The method of claim 6, wherein the carrier comprises an aerosol, intravenous, oral or topical carrier.
8. The method of claim 1, wherein the white blood cell is a neutrophil, a monocyte or a platlet.

9. The method of claim 1, wherein the subject is a mammal.

10. The method of claim 9, wherein the mammal is a human.

5 11. The method of claim 1, wherein the ischemic disorder comprises a peripheral vascular disorder, a pulmonary embolus, a venous thrombosis, a myocardial infarction, a transient ischemic attack, unstable angina, a reversible ischemic neurological deficit, sickle cell anemia or a stroke disorder.

10 12. The method of claim 1, wherein the subject is undergoing heart surgery, lung surgery, spinal surgery, brain surgery, vascular surgery, abdominal surgery, or organ transplantation surgery.

15 13. The method of claim 12, wherein the organ transplantation surgery comprises heart, lung, pancreas or liver transplantation surgery.

14. The method of claim 1, wherein the selectin is a P-selectin,
20 an E-selectin or an L-selectin.

15. A method for treating an ischemic disorder in a subject which comprises administering to the subject carbon monoxide gas in a sufficient amount over a sufficient period of time thereby
25 treating the ischemic disorder in the subject.

16. The method of claim 15, wherein the administration is via inhalation or extracorporeal exposure.

30 17. The method of claim 15, wherein the amount comprises from about 0.0001% carbon monoxide in air to about 2% carbon monoxide in an inert gas.

35 18. The method of claim 17, wherein the inert gas comprises air, oxygen, argon or nitrogen.

19. The method of claim 15, wherein the amount comprises 0.1% carbon monoxide in air.

5 20. The method of claim 15, wherein the period of time comprises from about 1 day before surgery to about 1 day after surgery.

10 21. The method of claim 15, wherein the period of time comprises from about 12 hours before surgery to about 12 hours after surgery.

15 22. The method of claim 15, wherein the period of time comprises from about 12 hours before surgery to about 1 hour after surgery.

20 23. The method of claim 15, wherein the period of time comprises from about 1 hour before surgery to about 1 hour after surgery.

25 24. The method of claim 15, wherein the subject is a mammal.

26. The method of claim 15, wherein the ischemic disorder comprises a peripheral vascular disorder, a pulmonary embolus, a venous thrombosis, a myocardial infarction, a transient ischemic attack, unstable angina, a reversible ischemic neurological deficit, sickle cell anemia or a stroke disorder.

30 27. The method of claim 15, wherein the subject is undergoing heart surgery, lung surgery, spinal surgery, brain surgery, vascular surgery, abdominal surgery, or organ transplantation surgery.

35 28. The method of claim 27, wherein the organ transplantation surgery comprises heart, lung, pancreas or liver

transplantation surgery.

5 29. A method for treating an ischemic disorder in a subject which comprises administering to the subject a pharmaceutically acceptable form of inactivated Factor IX in a sufficient amount over a sufficient period of time to inhibit coagulation so as to treat the ischemic disorder in the subject.

10 30. The method of claim 29, wherein the amount comprises from about 75 $\mu\text{g}/\text{kg}$ to about 550 $\mu\text{g}/\text{kg}$.

31. The method of claim 29, wherein the amount comprises 300 $\mu\text{g}/\text{kg}$.

15 32. The method of claim 29, wherein the pharmaceutically acceptable form comprises inactivated Factor IX and a pharmaceutically acceptable carrier.

20 33. The method of claim 32, wherein the carrier comprises an aerosol, intravenous, oral or topical carrier.

27 34. The method of claim 29, wherein the subject is a mammal.

35. The method of claim 34, wherein the mammal is a human.

25 36. The method of claim 29, wherein the ischemic disorder comprises a peripheral vascular disorder, a pulmonary embolus, a venous thrombosis, a myocardial infarction, a transient ischemic attack, unstable angina, a reversible ischemic 30 neurological deficit, sickle cell anemia or a stroke disorder.

35 37. The method of claim 29, wherein the subject is undergoing heart surgery, lung surgery, spinal surgery, brain surgery, vascular surgery, abdominal surgery, or organ transplantation surgery.

38. The method of claim 37, wherein the organ transplantation surgery comprises heart, lung, pancreas or liver transplantation surgery.

5 39. A method for identifying a compound that is capable of improving an ischemic disorder in a subject which comprises:

- 10 administering the compound to an animal, which animal is a stroke animal model;
- 15 measuring stroke outcome in the animal, and
- 20 comparing the stroke outcome in step (b) with that of the stroke animal model in the absence of the compound so as to identify a compound capable of improving an ischemic disorder in a subject.

25 40. The method of claim 39, wherein the stroke animal model comprises a murine model of focal cerebral ischemia and reperfusion.

41. The method of claim 39, wherein the stroke outcome is measured by physical examination, magnetic resonance imaging, laser doppler flowmetry, ~~triphenyl tetrazolium chloride staining~~, chemical assessment of neurological deficit, computed tomography scan, or cerebral cortical blood flow.

42. The method of claim 39, wherein the compound comprises a P-selectin antagonist.

30 43. A method for identifying a compound that is capable of preventing the accumulation of white blood cells in a subject which comprises:

35 a) administering the compound to an animal, which animal is

a stroke animal model;

b) measuring stroke outcome in the animal, and

5 c) comparing the stroke outcome in step (b) with that of the stroke animal model in the absence of the compound so as to identify a compound capable of preventing the accumulation of white blood cells in the subject.

10 44. The method of claim 43, wherein the white blood cell is a neutrophil, a monocyte or a platlet.

45. The method of claim 43, wherein the compound is a P-selectin inhibitor, a monocyte inhibitor, a platlet inhibitor or a neutrophil inhibitor.

15

